

## CLAIMS

What is claimed is:

- 1 1. A computer implemented method comprising:
  - 2 receiving a first set of data from a network process;
  - 3 determining death of the network process;
  - 4 clearing the first set of data if a time period expires; and
  - 5 synchronizing the first set of data with a second set of data if the time period does
  - 6 not expire, the second set of data received from the network process after
  - 7 the network process restarts.
- 1 2. The computer implemented method of claim 1 further comprising indicating the
- 2 first set of data as stale when the network process is determined to be dead.
- 1 3. The computer implemented method of claim 1 wherein expiration of the time
- 2 period is determined with a timer maintained after the network process is determined to
- 3 be dead.
- 1 4. The computer implemented method of claim 1 wherein the first set of data and the
- 2 second set of data are synchronized after a done signal is received.
- 1 5. The computer implemented method of claim 1 further comprising restoring a set
- 2 of configurations to the network process after the network process restarts.
- 1 6. The computer implemented method of claim 1 further comprising clearing the
- 2 second set of data if the time period expires and a done signal is not received.

1    7.    A computer implemented method comprising:  
2        detecting death of a process;  
3        restarting the network process;  
4        restoring a set of configurations to the network process;  
5        if a first set of data is generated before a time period expires, then synchronizing  
6                the first set of data with a second set of data, the second set of data having  
7                been generated before the death of the network process; and  
8        if the time period expires, then clearing the second set of data.

1    8.    The computer implemented method of claim 7 further comprising indicating the  
2        second set of data as stale when the network process is detected as dead.

1    9.    The computer implemented method of claim 7 wherein expiration of the time  
2        period is determined with a timer incremented after the network process is detected to be  
3        dead.

1    10.   The computer implemented method of claim 7 wherein the first set of data and the  
2        second set of data are synchronized after a done signal is received.

1    11.   The computer implemented method of claim 7 further comprising clearing the  
2        second set of data if the time period expires and a done signal is not received.

1    12.   A network element comprising:

2       a cross connect control module to host a first and second network process, the  
3           first network process to generate a first set of data after restarting and the  
4           second network process to synchronize the first set of data with a second  
5           set of data generated by the first network process before restarting upon  
6           determining a time period has not expired, the time period beginning when  
7           the first network process dies; and  
8        a traffic card coupled to the cross connect module, the traffic card to process a set  
9           of traffic with the synchronized first and second set of data.

1   13.   The network element of claim 12 wherein the cross connect module comprises a  
2        first and second memory to host the first and second network process.

1   14.   The network element of claim 12 wherein the traffic card comprises a set of  
2        processors to process the first and second set of data.

1   15.   The network element of claim 12 wherein the cross connect module comprises:  
2        a first memory to host the first network process;  
3        a second memory coupled to the first memory, the second memory to host the  
4           second network process; and  
5        a third memory coupled to the first and second memory, the third memory to store  
6           the first set of data, second set of data, and the synchronized set of data.

1   13.   A network element comprising:  
2        a first processor to execute a first and second network process, the first network  
3           process to generate a first set of data before restarting and a second set of  
4           data after restarting, the second network process to synchronize the first  
5           and second set of data upon determining a time period has not expired, the  
6           time period beginning when the first network process dies; and

7           a second processor coupled to the first processor, the second processor to process  
8           a set of traffic using the first set of data before the first network process  
9           restarts and the third set of data after the first network process restarts.

1       14. The network element of claim 13 wherein the first processor comprises a memory  
2       to store the first, second and third set of data.

1       15. The network element of claim 13 further comprising the first processor to allocate  
2       a first memory to the first network process and a second memory to the second network  
3       process.

1       16. The network element of claim 13 further comprising the first processor to allocate  
2       a first memory to the first network process, a second memory to the second network  
3       process, and a third memory to store the first set of data, the second set of data, and the  
4       third set of data.

1       17. A network element comprising:  
2           a first memory to host a first network process, the first network process to  
3           generate a first set of data before restarting and a second set of data after  
4           restarting;  
5           a second memory coupled to the first memory, the second memory to host a  
6           second network process, the second network process using the first and  
7           second set of data if a time period has not expired, the time period  
8           beginning when the first network process dies; and  
9           a third memory coupled to the first and second memory, the third memory to store  
10          the first set of data before the first network processes restarts and to store a

11                   synchronized set of the first and second set of data after the first network  
12                   process restarts.

18

1       18.   The network element of claim 17 wherein the first memory, the second memory  
2           and the third memory are main memory.

19

1       19.   The network element of claim 17 wherein the first memory, the second memory,  
2           and the third memory are mass storage.

20

1       20.   The network element of claim 17 wherein the first memory, the second memory,  
2           and the third memory are a set of regions of a memory.

21

1       21.   A system comprising:  
2           a first network element to execute a first network process the first network  
3                   process to generate a first set of data before restarting and a second set of  
4                   data after restarting; and  
5           a second network element coupled to the first network element, the second  
6                   network element to execute a second network process, to determine the  
7                   first network process died, to start a counter upon determining the first  
8                   network process has died, to store the first and second set of data, and to  
9                   synchronize the first and second set of data upon determining the counter  
10                  has not exceeded a time period.

22

1       22.   The system of claim 21 wherein the second network element comprises:  
2           a first memory to store the first set of data and the synchronized set of data; and  
3           a second memory to store the second set of data.

1    23. The system of claim 21 further comprising the second network element to clear  
2    the first and second set of data if a time period expires.

1    24. The system of claim 21 further comprising the second network element to mark  
2    the first set of data as stale when the first network process dies.

1    25. A machine-readable medium that provides instructions, which when executed by  
2    a set of processors of one or more processors, cause said set of processors to perform  
3    operations comprising:

4         receiving a first set of data from a network process;  
5         determining death of the network process;  
6         clearing the first set of data if a time period expires; and  
7         synchronizing the first set of data with a second set of data if the time period does  
8              not expire, the second set of data received from the network process after  
9              the network process restarts.

1    26      The machine-readable medium of claim 25 further comprising indicating the first  
2    set of data as stale when the network process is determined to be dead.

1    27. The machine-readable medium of claim 25 wherein expiration of the time period  
2    is determined with a timer maintained after the network process is determined to be dead.

1    28. The machine-readable medium of claim 25 wherein the first set of data and the  
2    second set of data are synchronized after a done signal is received.

1      29. The machine-readable medium of claim 25 further comprising restoring a set of  
2      configurations to the network process after the network process restarts.

1      30. The machine-readable medium of claim 25 further comprising clearing the second  
2      set of data if the time period expires and a done signal is not received.

1      31. A machine-readable medium that provides instructions, which when executed by  
2      a set of processors of one or more processors, cause said set of processors to perform  
3      operations comprising:

4          detecting death of a process;  
5          restarting the network process;  
6          restoring a set of configurations to the network process;  
7          if a first set of data is generated before a time period expires, then synchronizing  
8              the first set of data with a second set of data, the second set of data having  
9              been generated before the death of the network process; and  
10         if the time period expires, then clearing the second set of data.

1      32. The machine-readable medium of claim 31 further comprising indicating the  
2      second set of data as stale when the network process is detected as dead.

1    33. The machine-readable medium of claim 31 wherein expiration of the time  
2    period is determined with a timer incremented after the network process is detected to  
3    be dead.

1    34. The machine-readable medium of claim 31 wherein the first set of data and the  
2    second set of data are synchronized after a done signal is received.

1    35. The machine-readable medium of claim 31 further comprising clearing the  
2    second set of data if the time period expires and a done signal is not received.